

## High-Temperature/Pressure Sampling System, Phase I

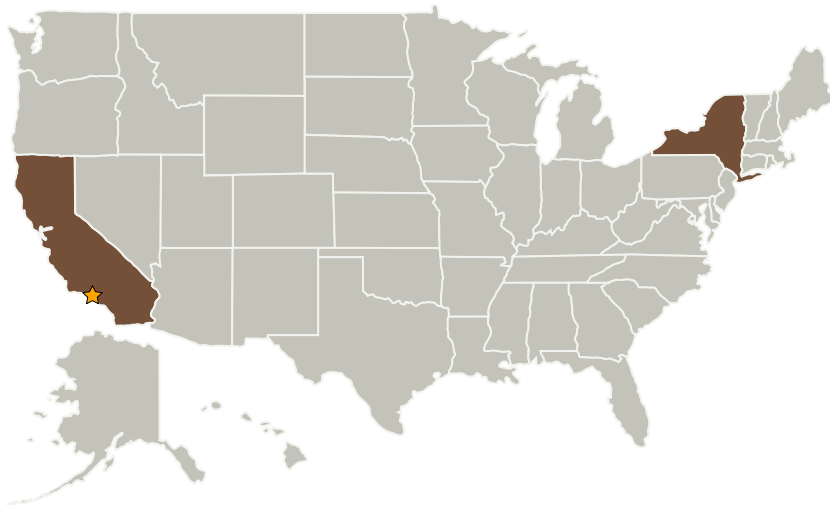
Completed Technology Project (2005 - 2005)



## Project Introduction

The National Research Council's Decadal Study released in July of 2003 recognizes Venus as an important and probable target for a New Frontiers mission within the next decade. NASA's New Frontiers missions are directed towards answering key scientific questions regarding planetary formation and evolution. Specifically, by drilling and taking in-situ measurements on Venus, insight into what global mechanisms affect the evolution of volatiles on planetary bodies, why the terrestrial planets evolved so differently from each other and how these processes operate and interact, will be gained. Honeybee proposes to develop a concept for an arm-deployed high-temperature/pressure (HTP) sampling system capable of drilling to a depth of 30-cm or more and quickly acquiring multiple core and/or unconsolidated samples from selectable depths. A Phase I award and subsequent Phase II award will bring a high-temperature/pressure sampling system to sufficient Technology Readiness Level in time for proposal of a landed Venus mission in the next round of New Frontiers solicitations. Funding under this year's SBIR program would be a critical step in the development of a flight-ready sampling system for inclusion on a Venus landed mission to be launched by 2011.

## Primary U.S. Work Locations and Key Partners



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## Organizational Responsibility

**Responsible Mission Directorate:**

Space Technology Mission Directorate (STMD)

**Lead Center / Facility:**

Jet Propulsion Laboratory (JPL)

**Responsible Program:**

Small Business Innovation Research/Small Business Tech Transfer

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Organizations Performing Work	Role	Type	Location
★ Jet Propulsion Laboratory(JPL)	Lead Organization	NASA Center	Pasadena, California
Honeybee Robotics, Ltd.	Supporting Organization	Industry	Pasadena, California

Primary U.S. Work Locations	
California	New York

## Project Management

**Program Director:**

Jason L Kessler

**Program Manager:**

Carlos Torrez

**Project Manager:**

William P McNally

**Principal Investigators:**

Jerri Ji

Jeri L Buchholz

## Technology Areas

**Primary:**

- TX04 Robotic Systems
  - └ TX04.3 Manipulation
    - └ TX04.3.4 Sample Acquisition and Handling